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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,668

01/20/2004

Julio Concha

60,426-264;10807/10785

1077

26096

7590

12/07/2006

CARLSON, GASKEY & OLDS, P.C.
400 WEST MAPLE ROAD
SUITE 350
BIRMINGHAM, MI 48009

EXAMINER

JIANG, CHEN WEN

ART UNIT

PAPER NUMBER

3744

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,668

Applicant(s)

CONCHA ET AL.

Examiner

Chen-Wen Jiang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-11, 13-16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 4, 12 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. In view of the second revised appeal brief filed on 9/21/2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are set forth below.

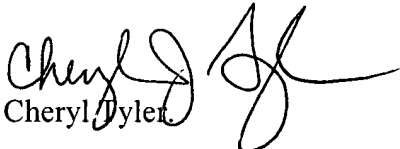
To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing

below:


Cheryl Tyler

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1,2,6,7,8,9,10,14,15,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakakibara et al. (U.S. Patent Number 6,370,896) in view of Whitwell et al. (U.S. Patent Number 4,492,091).

Sakakibara et al. disclose a hot water supply system with supercritical heat pump cycle. Referring to Fig.2, the system comprises a supercritical heat pump cycle 200, water tank 300, first water temperature sensor 272 detects the temperature of the water flowing into the water heat exchanger, second water temperature sensor 274 detects the temperature of the hot water flowing from the water heat exchanger and temperature sensors 370 detect the temperature of the hot water within the tank. The heat pump is activated when the temperature in the tank 300 is less than a predetermined level. The heat pump 200 is controlled based on the temperature sensors 370 therein. Sakakibara et al. is silent about de-energize the heat pump. Whitwell et al.

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disclose to de-energize the heat pump when the sensed water temperature exceeds a second threshold temperature in the same field of endeavor for the purpose of de-energize the heat pump. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to de-energize the apparatus of Sakakibara et al. with a water temperature exceeds second threshold in view of Whitwell et al. so as to de-activate the system.

4. Claims 1,5,6,7,8,9,13,14,18,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakakibara et al. (U.S. Patent Number 6,370,896) in view of Steward (U.S. Patent Number 5,367,602).

Sakakibara et al. disclose a hot water supply system with supercritical heat pump cycle. Referring to Fig.2, the system comprises a supercritical heat pump cycle 200, water tank 300, first water temperature sensor 272 detects the temperature of the water flowing into the water heat exchanger, second water temperature sensor 274 detects the temperature of the hot water flowing from the water heat exchanger and temperature sensors 370 detect the temperature of the hot water within the tank. The heat pump is activated when the temperature in the tank 300 is less than a predetermined level. The heat pump 200 is controlled based on the temperature sensors 370 therein. Sakakibara et al. is silent about de-energize the heat pump. Steward discloses to de-energize the heat pump when tank outlet temperature exceeds a second threshold temperature in the same field of endeavor for the purpose of safety. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add a temperature sensor at tank outlet of Sakakibara et al. in view of Steward so as to de-activate the system for the safety reason when tank outlet temperature exceeds a second threshold temperature.

5. Claims 1,3,6,7,8,9,11,14,16,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakakibara et al. (U.S. Patent Number 6,370,896) in view of Yamaguchi et al. (JP 62010535).

Sakakibara et al. disclose a hot water supply system with supercritical heat pump cycle. Referring to Fig.2, the system comprises a supercritical heat pump cycle 200, water tank 300, first water temperature sensor 272 detects the temperature of the water flowing into the water heat exchanger, second water temperature sensor 274 detects the temperature of the hot water flowing from the water heat exchanger and temperature sensors 370 detect the temperature of the hot water within the tank. The heat pump is activated when the temperature in the tank 300 is less than a predetermined level. The heat pump 200 is controlled based on the temperature sensors 370 therein. Sakakibara et al. is silent about de-energize the heat pump. Yamaguchi et al. disclose to de-energize the heat pump when tank inlet temperature exceeds a second threshold temperature in the same field of endeavor for the purpose of safety. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add a temperature sensor at tank inlet of Sakakibara et al. in view of Yamaguchi et al. so as to deactivate the system for the safety reason when tank inlet temperature exceeds a second threshold temperature.

Allowable Subject Matter

6. Claims 4,12 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809. The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Chen-Wen Jiang
Primary Examiner

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke at the end.